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LETTER

Are erythema multiforme and urticaria related to a better outcome of COVID-19?

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Dear Editor,

Erythema multiforme (EM) and urticaria (U) may be related to different underlying conditions, such as adverse drug reaction, infection, and cancer. Both EM and U are sometimes associated with eosinophilia (>500 eosinophils/mm^3).[1] Recently, some reports described the occurrence of EM and U in patients affected with coronavirus disease 2019 (COVID-19). In these cases, a drug eruption was sometimes reported as the triggering factor,[2] while a little is known about such eruptions not clearly associated to drugs. Eosinophilic cells blood count seems to have a major role in COVID-19 diagnosis and prognosis. Eosinopenia has been associated in up to 81% of cases[3] and was proposed as possible diagnostic marker for the disease.[4] Persistent eosinopenia was associated to higher mortality.[3] On the other hand, an increase of eosinophils in blood was related to an improvement of the overall condition of the patient.[5] Furthermore, patients with pre-existing atopic disease (asthma, rhinitis, and atopic dermatitis) seem to be less affected by COVID-19.[4] Therefore, eosinophilia was associated with a protective effect toward the development of COVID-19.[6] Histopathology of some skin rashes arising during COVID-19 shows a perivascular and dermal infiltrate rich in eosinophilic cells.[7] Various theories have been proposed in order to explain these findings. Eosinopenia may be secondary to cell depletion due to the viral infection or to stress-induced glucocorticoid secretion.[8] Eosinophilia might be beneficial thanks to its antiviral effect, as demonstrated for influenza and parainfluenza virus.[5] We can speculate that the non-drug related EM and U might be associated to systemic eosinophilia secondary to a strong response to COVID-19, and therefore possibly to a better outcome of the disease. Indeed, nondrug-induced EM has been mostly reported in young healthy nonhospitalized COVID-19 patients.[9] U not related to drug reaction was reported in up to 4% of COVID-19 patients,[10] but it was not specified at what stage of the disease it appeared and what the patients' general condition were.

In conclusion, we might suppose that EM and U, when associated to eosinophilia, could be related to a better outcome of COVID-19. However, more clinical data would be needed to prove this association.

CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

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